



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,007	10/31/2005	Michiya Kobayashi	009270-0315086	2826
909 7590 12/12/2008 PILLSBURY WINTHROP SHAW PITTMAN, LLP P.O. BOX 10500 MCLEAN, VA 22102				
EXAMINER				
GREEN, TRACIE Y				
ART UNIT		PAPER NUMBER		
2879				
MAIL DATE		DELIVERY MODE		
12/12/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/526,007

Applicant(s)

KOBAYASHI, MICHIIYA

Examiner

TRACIE Y. GREEN

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 09/24/2008

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Receipt is acknowledged of applicant's amendment filed 08/28/2008. Claims 1-3 and 6-8 are pending and an action on the merits is as follows.
2. Applicant's arguments are moot new grounds of rejection. This action is non-final.

Specification

3. The amendment filed 08/24/2008 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "wherein heights of said first pixel electrodes are different from heights of said second pixel electrodes in a cross-sectional direction of the display device,"

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-3 and 6-8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, applicant amended the claims to include the following:" wherein heights of said first pixel electrodes are different from heights of said second pixel electrodes in a cross-sectional direction of the display device" applicant does not disclose height anywhere in the specification nor provides for one of ordinary skill in the art to arrive at a conclusion that the pixel electrodes are at different heights.

7. Claims 1-3 and 6-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, applicant amended claims to include the first and second pixel electrodes differ in height. Applicant's specification fails to disclose what this means. For purposes of examination, examiner has assumed that the applicant meant the thickness of the electrodes is different.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-3 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono (JP 2001-305525) in view of Kishi (US 6,819,309) and in view of Seo et al. (US 2003/0227253).

Regarding claim 1, Ono teaches (Drawings 1-4) a display device (100) comprising: an optically transparent substrate (4 or 5) first pixel electrode (2) formed on said substrate (4) first pixel electrodes (2) being disposed in a first direction; second pixel electrodes (3) formed on said substrate (4), second pixel electrodes (3) common electrodes (8 or 9) (Examiner note: 8 and 9 are both conductive thus can be considered common electrodes) provided with optically transparent portions (Paragraph 18, lines 1-3) corresponding to said first pixel electrodes (2) and light shielding portions (Paragraph 18, lines 1-3) corresponding to said second pixel electrodes (3); first optical layers (1) disposed between said first pixel electrodes (2) and said common electrodes(8) to change an optical property (Paragraph 17) in response to electric energy applied between said first pixel electrodes (2) and said common electrodes (8 or 9) Ono teaches one optical layer (1) between the second electrode (3) and the common electrode (8) to change an optical property in response to electric energy applied between said second pixel electrodes and said common electrodes;

Ono is silent regarding second optical layers disposed between said second pixel electrodes and said common electrodes to change an optical property in response to electric energy applied between said second pixel electrodes and said common electrodes; scanning lines disposed in said first direction on said substrate; first and second video signal lines disposed in said second direction on said substrate; first

switching elements provided in vicinities of points where said scanning lines cross said first video signal lines, said first switching elements supplying video signals from said first video signal lines between said first pixel electrodes and said common electrodes in response to scanning signals from said scanning lines ; and second switching elements provided in vicinities of points where said scanning lines cross said second video signal lines said second switching elements supplying video signals from said second video signal lines between said second pixel electrodes and said common electrodes in response to scanning signals from said scanning lines; wherein at least a part of said first and second switching elements is disposed in a region defined by said substrate and said first pixel electrodes.

In the same field of endeavor of display devices, Kishi teaches (Figures 10a-10d) second optical layers (m2) disposed between said second pixel electrodes (5) and said common electrodes (21) to change an optical property in response to electric energy applied between said second pixel electrodes and said common electrodes; scanning lines disposed in said first direction on said substrate; first and second video signal lines (9) disposed in said second direction on said substrate (2); first switching (6) elements provided in vicinities of points where said scanning lines(9) cross said first video signal lines (10), said first switching elements (6)supplying video signals from said first video signal lines (10) between said first pixel electrodes (4) and said common electrodes (20) in response to scanning signals from said scanning lines (9); and second switching elements (7) provided in vicinities of points where said scanning lines (9) cross said second video signal lines (11) said second switching elements (7) supplying video

signals from said second video signal lines (11) between said second pixel electrodes (5) and said common electrodes (21) in response to scanning signals from said scanning lines (9); wherein at least a part of said first (6) and second switching elements (7) is disposed in a region defined by said substrate (2) and said first pixel electrodes (4) in order to provide a device that is thin , portable and has reduced manufacturing cost.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the display device of Ono wherein second optical layers disposed between said second pixel electrodes and said common electrodes to change an optical property in response to electric energy applied between said second pixel electrodes and said common electrodes; scanning lines disposed in said first direction on said substrate; first and second video signal lines disposed in said second direction on said substrate; first switching elements provided in vicinities of points where said scanning lines cross said first video signal lines, said first switching elements supplying video signals from said first video signal lines between said first pixel electrodes and said common electrodes in response to scanning signals from said scanning lines ; and second switching elements provided in vicinities of points where said scanning lines cross said second video signal lines said second switching elements supplying video signals from said second video signal lines between said second pixel electrodes and said common electrodes in response to scanning signals from said scanning lines; wherein at least a part of said first and second switching elements is disposed in a region defined by said substrate and said first pixel electrodes in order to

provide a device provide a device that is thin , portable and has reduced manufacturing cost as taught by Kishi et al.

Ono as modified by Kishi et al. discloses electrodes running in parallel direction. Ono teaches in paragraph 23 that depending on the applied usage of the display will ultimately determine the configuration. Therefore one of ordinary skill in the art could modify the device of Ono wherein said first pixel electrodes are disposed in a first direction, said second pixel electrodes are disposed in a second direction to cross said first pixel electrodes in order to provide a device with no increase in manufacturing cost and improved luminance efficiency.

Ono as modified by Kishi et al. is silent regarding wherein heights of said first pixel electrodes are different from heights of said second pixel electrodes in a cross-sectional direction of the display device.

In the same field of endeavor Seo et al. teaches wherein heights of said first pixel electrodes are different from heights of said second pixel electrodes in a cross-sectional direction of the display device (Paragraphs 111 and 146) (Examiner note: first electrode is 100-800nm and the second electrode is 20 nm) in order to provide a device less in consumption power and improved longevity.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the display device of Ono wherein heights of said first pixel electrodes are different from heights of said second pixel electrodes in a cross-sectional direction of the display device in order to provide a device less in consumption power and improved longevity as taught by Seo et al.

Regarding claim 2, Ono teaches and second pixel electrodes are optically reflective on sides facing said common electrodes (Paragraph 16)

Regarding claim 3, Ono teaches a first (2) and second pixel electrodes (3) are alternatively provided in said first and/or second directions. (Examiner note: prior art reference alternates electrodes from top to bottom. first electrode (2) on top surface followed by second electrode (3) on bottom surface.

Regarding claim 6, Ono as modified by Kishi et al. and Seo et al. teaches claims 1-3 except wherein the number of said first pixel electrodes is different from that of said second pixel electrodes. Ono further teaches in paragraph 5, having a configuration which suits the application of the display device. One of ordinary skill in the art could vary the number of electrodes such that the number of said first pixel electrodes is different from that of said second pixel electrodes to provide a thin lightweight and power efficient device.

Regarding claim 7, Ono teaches an LCD display and does not explicitly teach wherein said first and second optical layers are provided with organic electro-luminescent light emitting layers. However, Ono in paragraphs 5, 10-11, disclosed the need for a smaller dual faced device, hat will not increase cost or size of the equipment in which is used. One of ordinary skill in the art could apply the teaches of Ono and provide a device with organic electro-luminescent light emitting layers in order to prevent an increase in cost or size,

Regarding claim 8, Ono teaches an input manipulator (300, 14) to input signals to said display device (Paragraph 26)

Response to Arguments

10. Applicant's arguments with respect to claims 1-3 and 6-8 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRACIE Y. GREEN whose telephone number is (571)270-3104. The examiner can normally be reached on Monday-Thursday, 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571/272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/Tracie Y Green/
Examiner, Art Unit 2879

/Sikha Roy/
Primary Examiner, Art Unit 2879